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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/712,452

11/12/2003

Chang-Woo Ha

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22440

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10/15/2004

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EXAMINER

LAM, TUAN THIEU

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/712,452

Applicant(s)

HA ET AL.

Examiner

Tuan T. Lam

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/12/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 22-31 have been renumbered as 21-30, respectively. *Claim*

Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation of “a feedback resistor coupled between the photo detector and the amplifier” is indefinite because it is misdescriptive. Figure 2 of the present shows the feedback resistor (Rf) is coupled between the output of the output buffer (G3) and the input of the amplifier (G1). Correction is required.

In claim 19, the recitation of “so that the trans-impedance amplifier is prevented” is indefinite because it is unclear as to what the applicant means by the trans-impedance amplifier is prevented. Clarification is required.

In renumbered claims 22 and 28, the recitation of “one of a junction between the output buffer and the amplifier and a reference potential” is indefinite because the junctions are not clearly defined. As shown in figures 2, 5 and 10, the limiter current is outputted to the junction between the photo detector and the input of the amplifier. Clarification and correction are required.

In renumbered claim 25, the recitation of “so that the trans-impedance amplifier is prevented” is indefinite because it is unclear as to what the applicant means by the trans-impedance amplifier is prevented. Clarification is required.

Claims 2-18 and renumbered claims 21, 23-24, 26 and 29-30 and are indefinite because of the technical deficiencies of claims 1, 19 and 25.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 19 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 3743765A1. Figure 1 of DE 3743765A1 shows a current to voltage transforming circuit comprising a photo detector (1) generating a photo current in response to a photo signal into the photo detector, a trans impedance amplifier (2, 3, 4) converting and amplifying the photo current to generate an output voltage (A) and generating first and second output currents (output currents of the differential amplifiers 32 and 52), a current detecting limiter (40, 60) generating a limiter

Art Unit: 2816

current in response to the first and second currents so that the trans-impedance amplifier is prevented (to limit the input current to the buffer 2) as called for in claims 19 and 25.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 19 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Denoyer et al. (USP 6,778,021). Figure 3 of Denoyer et al. shows a current to voltage transforming circuit comprising a photo detector generating a photo current in response to a photo signal into the photo detector, a trans impedance amplifier (Q0-Q1, Q3, Q4, 210, 212) converting and amplifying the photo current to generate an output voltage (output of 212) and generating first and second output currents (output currents pass through input resistors of 214), a current detecting limiter (Q2) generating a limiter current in response to the first and second currents so that the trans-impedance amplifier is prevented (to limit the input current to the photo detector) as called for in claims 19 and 25.

6. Claims 19 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishizono (USP 6,476,954). Figure 6 of Nishizono shows a current to voltage transforming circuit comprising a photo detector (PD) generating a photo current in response to a photo signal (LIGHT) into the photo detector, a trans impedance amplifier (Rf1, 21, 23a) converting and amplifying the photo current to generate an output voltage (Vout1) and generating first and second output currents (I1, I2), a current detecting limiter (Rf2, 23b) generating a limiter current (output current of 23b) in response to the first and second currents so that the trans-impedance amplifier is prevented (to limit the input current to the photo detector) as called for in claims 19 and 25.

Art Unit: 2816

Allowable Subject Matter

7. Claims 20-24 and 26-30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. Claims 1-18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In this regard, applicant's cited prior art has been carefully considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T. Lam
Primary Examiner
Art Unit 2816

10/4/2004